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The *ACQUISITION ENVIRONMENTAL SAFETY, AND OCCUPATIONAL HEALTH*

MONITOR

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ASC/EM AND ALC's PARTNERING TO REDUCE HAZARDOUS MATERIALS USE

Aeronautical Systems Center's Applied Technology Program (ASC/EMV) announces another promising pollution prevention initiative. The latest in a series of environmental projects, titled "Environmentally-Compliant Part Processing Sequences" offers to significantly reduce the use and generation of hazardous materials (HAZMATs). Partnering with the engineering communities at the Ogden Air Logistics Center in Utah, and Boeing in St. Louis, this project supports pollution prevention initiatives, while protecting human health and the environment.

The current processing sequence used to protect alloy steel parts from corrosion involves an electroplated cadmium finish, a spray-applied paint primer containing a chromated corrosion inhibitor, and a spray-applied paint topcoat. Many of these aircraft parts will be subsequently depainted in the field and reprocessed after maintenance procedures. This finishing, painting, and depainting cycle is a major generator of hazardous air pollutants (HAPs), and volatile organic compounds (VOCs). The cadmium finish and chromium in paint primer and conversion coating are especially "bad actors." Both are on the EPA-17 list of HAZMATs, are probable or known carcinogens, and cause even more environmental problems in the maintenance community than at the time of application by the airframer community.

Contents

Most high strength alloy steel parts such as those in landing gears are periodically removed from the aircraft, stripped of paint and cadmium, inspected, and then refinished after necessary repairs. Likewise, the moldline of aircraft are depainted periodically for both weight reduction and inspection. Both of these operations often involve mechanical abrasive procedures which can create cadmium and chromium aerosols (dust). Concerned with worker health, OSHA has significantly reduced the permissible exposure limit (PEL) of cadmium dust and set an action level at one-half of the PEL. Exposures greater than the action level trigger a number of costly new requirements such as more stringent process control, worker medical surveillance, and multi-year record keeping. Similar expanded OSHA requirements for chromium dust are pending. Additionally, the mechanical depaint media becomes contaminated with cadmium and chromium rendering it a hazardous waste.

K. Mark Child, Chemical Processing Engineer at OO-ALC, provides additional insight regarding the use of HAZMATs for landing gear maintenance, "The largest single hazardous waste stream we generate is the abrasive blast waste. This is due to cadmium and the chromate in the primer we use. This waste stream amounts to about 350,000 pounds per year." More recently, Air Force maintenance facilities have discovered various levels of cadmium contamination in their aircraft parts washer's solution and in aircraft rinse water after cleaning operations. The probable sources of contamination are numerous, ranging from small parts like fasteners and electrical connectors to large landing gear components.

The current project is qualifying an environmentally-compliant part processing sequence for alloy steel detail parts by developing functional comparisons to the existing processing sequence. A technology transition plan includes the demonstration of two potential cadmium replacements: IVD aluminum and alkaline zinc-nickel. A nonchromated conversion coating for IVD aluminum, nonchromated paint primers, and low VOC/HAP primers/topcoats will complete the project demonstration.

Potential cadmium plating alternatives have also been identified for internal surface applications: sputtered aluminum, an electrophoretic applied primer (E-Coat) based barrier system, and alkaline-zinc nickel. A follow-up project has been proposed which will optimize non-cadmium processes for ALCs with internal surfaces applications and conduct a demonstration/validation of the technology at the OO-ALC.

For further information regarding this partnership effort, please contact Chuck Valley (ASC/EMV) at DSN 785-3059 ext. 330.

This article was submitted by Mr. Chuck Valley, ASC/EMV. ■

ASC/EM IS DEVELOPING "VIRTUAL CLASSROOM" ACQUISITION POLLUTION PREVENTION TRAINING

Figure 2 provides an overview of the internal and external sources of pollution prevention training that ASC/EM has made available to the systems engineering community. The objective of these training and awareness initiatives is to institutionalize Environmental. Safety, and Health (ESH) into the acquisition process in accordance with DoD 5000.2-R.

The latest initiative at ASC/EMV is to convert the P2 Two Day Training Course into a "virtual classroom" forum. The training initiative, which is anticipated to be completed in October 98, includes the following phases:

- **Phase I**, which has been completed, included updating and converting the P2 training course to VCR configuration.
- **Phase II**, currently underway officially since 20 May 98, includes testing and implementing the configured course through SAS, to an on-line VCR activity for those with desktop computers. This will involve the first eight lessons discussed below.
- **Phase III** involves incorporating Lessons 9 and 10 into the Phase II activity through the SAS process.

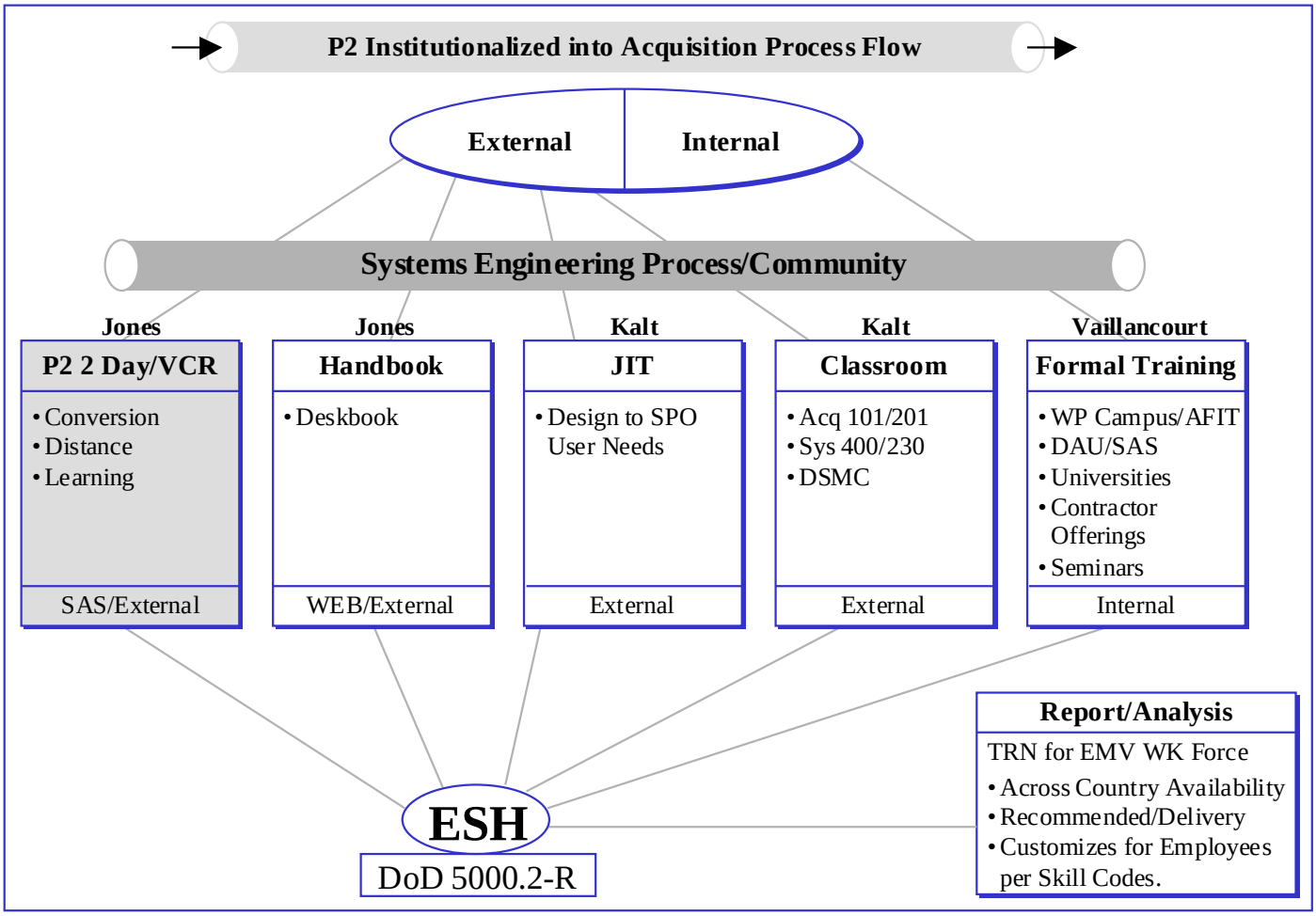

Figure 2. Summary of Pollution Prevention Training & Awareness Initiatives at ASC/EM

The lessons available through the "virtual classroom" will include the following:

1. Introduction of Weapon System Pollution Prevention
2. Pollution Prevention in Weapon System Life Cycle
3. Environmental Policy Drivers
4. National Environmental Policy Act (NEPA)
5. HAZMAT Policy
6. ODS Status in the Air Force
7. Pollution Prevention and the Systems Engineering Process
8. Integrating Pollution Prevention Initiatives into the Weapon System Acquisition Process
9. Center Environmental Overview
10. Lessons Learned

For further information regarding this initiative, please contact Charles Jones, ASC/EM at DSN 785-3059 ext. 311.

The training initiative discussed in this article, along with the VCR activity at AFMC, has won Vice President Al Gore's "Hammer Award." This is a team effort award for reinventing government by changing from an old process to a new and effective one. ■

THE MONITOR COMPLETES ITS SECOND CYCLE OF CONTINUOUS IMPROVEMENT

The Weapon System Pollution Prevention MONITOR, which was supported at Human Systems Center (HSC) under Mr. John Biggs, Program Manager, has completed its second cycle of continuous process improvement. During Cycle II, (1995-1997) the key success of the MONITOR has been **establishing an accepted and used platform for communication between the organizations that support the Air Force Single Manager (SM) and the Environmental, Safety and Occupational Health (ESOH) communities**. Highlights of accomplishments of the MONITOR in Cycle II include the following:

- Provided policy related guidance to issues that impact AFMC installations and weapon systems (ODCs, HMRPP, PESHE, DoD 5000.2, SAMP, Acquisition Reform).
- Provided information on tools and technologies available across AFMC, Air Force, DoD and industry (Acquisition Training Guides, ESH Cost Handbook, Shop Level P2 Training, etc.)
- Provided programmatic information of installation level activities within AFMC (featured P2 programs at WR-ALC, OC-ALC)
- Provided programmatic information at weapon system level within AFMC (B-2, C-17, F-22, PEWG, CTIO)
- Provided information about various AF/DoD programs (P2IPT, HQ USAF P2IPT, JGAPP, WL RD&A Strategic Planning, WL R&D Program, AF ESOH Program, AETC Needs Identification Process).

In its third cycle (1998-2000) of continuous improvement, the MONITOR has transitioned to Aeronautical Systems Center (ASC) under the management of Mr. Cliff Turner. Additionally, the newsletter has been renamed *the Acquisition Environmental, Safety, and Occupational Health MONITOR*. The desired end state and objectives of the MONITOR in its third cycle of continuous improvement are presented in Figure 3. ■

Acquisition Environmental, Safety & Occupational Health MONITOR

Desired End State

"Become a tool for "training and indoctrination" in support of the objectives of the Single Manager, his/her customers and the Environmental, Safety, and Occupational Health (ESOH) communities across DoD."

Objectives

- The MONITOR will serve as an information cross-feed and a "training and indoctrination" tool for advocating the Environmental, Safety, and Occupational Health (paradigm) and facilitating the integration of Environmental, Safety, and Health into the acquisition process to improve performance and reduce costs.
- The MONITOR will cross-feed success stories and validation efforts of AFMC's P2 program and foster the link to transition technologies and success stories between the acquisition and sustainment communities.
- The MONITOR will continue to increase the reach and distribution of its existing platform to include all potential stakeholders, and to incorporate best practices from AFMC Centers, DOD, EPA, industry and other sources.
- The MONITOR will establish an advisory board to streamline the year's focus on issues critical to the Air Force community, the SM, and his/her customers
- The MONITOR will continue to expand the horizontal and vertical integration of the appropriate stakeholders to increase the effectiveness of communication through this ESOH platform.

MONITOR Staff

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Figure 3. Desired End State and Objectives of the MONITOR - Cycle III

Innovative Technology

Recyclable Waste Lubricant Detection System

System Components

- Continuous Flow-Through Segregation System.
- Two sensors that screen the used lubricants as they are poured through a test chamber into a collection drum.
- The first sensor, a tin oxide sensor, tests for contamination and measures flash point by comparing changes in resistance of the oil vapors across the sensor coil.
- The second sensor, a steel wire electrode sensor, is used to determine the level of degradation of the lubricant.
- Two tests are performed simultaneously as the lubricant flows through the chamber. If either sensor detects a response outside the acceptable range, an electronic valve connecting the test chamber to the collection vessel automatically closes so that no unacceptable material is allowed to enter the collection vessel.
- Unacceptable lubricant must then be manually drained into a separate container through a hand valve on the bottom of the chamber.

Advantages

The Air Force currently disposes of thousands of gallons of used turbine engine lubricants annually. Ideally, these used lubricants would be segregated and sold to reprocessors for reuse as a high quality lubricant basestock, however, less than 10 percent is actually rerefined.

A critical impediment to reprocessing turbine engine lubricants is the need to collect and provide economic quantities of segregated, non-contaminated lubricants. To be recyclable, the chlorine content must be below 1000 ppm and the flash point must be above 140°F. Another major factor is the degradation of the lubricant. Lubricants that have been stressed to the point at which the basestock starts to deteriorate cannot be recycled. In the past generators who wished to pursue recycling as an alternative to disposal of these lubricants were forced to collect samples and go through a costly and time consuming analytical testing process to determine if their used lubricants met the criteria for recycling. This testing typically costs several hundred dollars per sample and must be performed on every batch of used lubricants collected for recovery.

The Recyclable Waste Lubricant Detection will help generators of waste lubricants who would like to pursue recycling as an alternative to disposal, but who may not have access to specialized testing facilities or the time or budget to pay for off-site testing. The estimated cost for the Continuous Flow-Through Segregation System is $2000.

Other Modifications: Volatile Chlorinated Solvent Detector & Portable Conductivity Meter

The two miniaturized hand-held "spin-off" versions: the Volatile Chlorinated Solvent Detector and the Portable Conductivity Meter are battery-powered and can be used to conduct the contamination/ flashpoint and the electrical conductivity tests on the used lubricants in the field. These instruments are designed for qualitative analysis of smaller samples. Not only can they be used in the field or other locations away from the main collection point, but they can also be used to prescreen material and allow oil recycling companies to verify the used lubricants are free of contamination prior to transport.

Further Information

For further information contact: Mr. Tony Dao, AFRL/POSL at DSN 785-6765.

NEW ADVANCED MAINTENANCE FREE NI-CD BATTERY SYSTEM REDUCES HAZARDOUS WASTE AND SAVES MONEY

The Air Force uses vented nickel-cadmium batteries on board aircraft for a variety of uses such as cranking engines, canopy operation, and electrical checkout. The batteries currently in use require frequent and costly maintenance. Compounding the problem, the present charging systems are not sufficiently regulated and can cause premature battery failure through overcharging. The vented batteries must be removed from the aircraft and serviced every 30-90 days exposing workers to hazardous chemicals such as the battery electrolyte, nickel, and cadmium. Additionally, when battery cells are replaced due to failure, they must be disposed of as hazardous waste due to the nickel and cadmium content. Development of a reliable, sealed maintenance free battery would dramatically reduce the environmental, safety, and health impact attributed to the vented batteries as well as the associated maintenance costs. Increased aircraft reliability would also be achieved by eliminating the downtime required for scheduled battery removal and replacement and decreased sortie aborts that are attributable to battery failure.

Engineers at the Air Force Research Laboratory's Propulsion and Power Directorate (AFRL/PR), adapted and modified an existing satellite battery technology in an attempt to develop a sealed Ni-Cd battery system suitable for aircraft use. Under their early program, they proved the feasibility of a 4-year maintenance free aircraft battery (MFAB). Following the development of the experimental system, flight-testing was accomplished on board a B-52H aircraft. After nine months of testing the system manager at Oklahoma City Air Logistics Center (OC-ALC) decided to convert the entire B-52H fleet to the new maintenance free battery. In addition, the 654th Test Wing at Tinker AFB conducted a 12 month flight compatibility test of the MFAB on an E-3 AWACS aircraft.

Based on the successful test flight program MFAB system and long life maintenance free battery data from satellites, AFRL/PRPB initiated an advanced effort to develop an Advanced Maintenance Free Aircraft Battery System (AMFABS) with a poten-

tial life of 20 years. The goal of this program was to couple a MFAB with an intelligent charger to extend battery maintenance intervals to 20 years. A number of technological advancements were made in the design and construction of the battery, however, the main accomplishment was the development of an advanced microprocessor controlled charger that uses modular software which incorporates an optimized charge algorithm. The charger is the cornerstone in this effort. It carefully monitors and controls battery recharge within specific limits that will extend the battery life. The charger measures several variables including battery temperature and charge state, and automatically determines the optimum charge rate. The charger also provides state of charge measurement and has built-in test capability that can be easily made available for the pilot and/or ground crew.

Currently, plans are underway to install the AMFABS and charger on the E-8 JSTARS fleet. The system can also be designed to meet direct form, fit, and function requirements making it suitable for use on the E-3, KC-135, C-17, B-1, F-117, F-22, and F-16 aircraft as well as ground support equipment.

For further information about this technology, please contact Mr. Steve Vukson, AFRL/PRPB, at DSN 785-2372. ■

Innovative Technology

Aluminum Ion Vapor Deposition (AIVD) System

System Components

The major components of an AIVD system include:

- An IVD vacuum (coating) chamber
- A positive pressure clean room with air conditioning and controls for dust and humidity.
- A two-stage vacuum pump system to evacuate the coating chamber to 10-6 torr.
- A cryogenic cooler to remove excess water vapor and reduce pump-down time.
- A parts rack with air-flotation transport dollies.
- A barrel coater for small parts.
- Specialty racks for long or large parts.
- Glove boxes for grit blasting and peening.
- A high-voltage power supply.
- A computer controller.
- Proven results.

Advantages Over Traditional Cadmium Plating

- Requires no hazardous materials and generates no hazardous waste. AIVD prevents employee exposure to hazardous materials, ends the duty of loading waste for transport to a wastewater treatment plant, and eliminates the need for environmental permits.
- In acidic environments, AIVD prevents corrosion better than cadmium coatings.
- AIVD coatings stand up to higher temperatures (925° F, compared to 450° F for cadmium).
- AIVD allows for thicker coatings, and provides a more uniform coating on edges and corners than solution electroplating.

Technology Transfer

U.S. Army Environmental Center (USAEC) recently implemented an AIVD system at Tobyhanna Army Depot, PA. The center documented this assistance in the report, Technical Support for Implementation of Aluminum Ion Vapor Deposition at Tobyhanna Army Depot (Report No. SFIM-AEC-ET-CR-96006, NTIS Order# ADA 308911). This report includes a bid specification for the AIVD system, an economic analysis of the AIVD system, a work order for system installation, and information on AIVD technology and coatings.

Further Information

For further information contact:
U.S. Army Environmental Center Hotline
(800) USA-3845, DSN 585-1699

Source: Army Environment Center (AEC)

JOINT SERVICE POLLUTION PREVENTION TECHNICAL LIBRARY (JSPPTL)

The Navy Pollution Prevention (P2) Handbooks, which were transitioned to the Tri-Service Technical Library are now a part of the Joint Service Pollution Prevention Technical Library (JSPPTL). The CNO-N45 sponsored effort includes participation from the Navy, Army, Air Force, USMC, and DLA. The Joint Service P2 Handbooks are organized into sections by process categories which include the following: painting; depainting; ODS; POLs; Solid Waste; Hazardous Waste Minimization; Metal Finishing; Solvent Substitution; Wastewater Treatment. Each section includes a series of technical data sheet that are update semi-annually and include vendor listings.

Joint Service Pollution Prevention Technical Library (JSPPTL)	
Web Site	http://enviro.nfesc.navy.mil/p2library/
Sponsor	CNO - N45 (Managed by NFESC)
AF POC	Col Pat Fink, AFCEE
NFESC POC	Bob Frederickson (805-982-4897)
Products and Services	➨ Joint Service PP Opportunities Handbook ➨ P2 Equipment Listing ➨ DLA's Environmental Product Catalog

For additional information, please access the JSPPTL web site at http://enviro.nfesc.navy.mil/p2library/ or contact Bob Frederickson at 805-982-4897. ■

AFCEE PUBLISHES FACT SHEET ON AEROSPACE NESHAPs

Installations will requires compliance with the Aerospace NESHAPs requirements by September 1, 1998. AFCEE has published a fact sheet discussing the requirements under these regulations. Figure 5 lists the hazardous air pollutants (HAPs), operational activities, and the partial requirements under the Aerospace NESHAPs. The fact sheet on the Aerospace NESHAPs is available through PRO-ACT or can be accessed at the following website: http://www.afcee.brooks.af.mil/pro_act/main/fact/fact/NESHAP/06-97-17.htm. ■

* There are 13 wipe cleaning exemptions.

* Under a proposed amendment to the regulation, other areas will be identified as "affected sources" including spray booth and hangers which contain primer application, top coat application, or depainting operations

Figure 5. HAPs, Operational Activities, and Requirements Under the Aerospace NESHAPs

RELATIONSHIP BETWEEN NESHAPs AND THE CLEAN AIR ACT

The Clean Air Act regulations have evolved from the Air Quality Act of 1967 to the 1970 version as amended in 1977, which was completely overhauled in 1990. While the 1967 Air Quality Act set forth a series of guidelines, the 1970 and 1977 versions of the Clean Air Act set forth detailed control requirements, which were expanded in the 1990 amendments.

Under the Clean Air Act, three types of regulatory programs have been formulated. The first is based on ambient air quality levels of certain pollutants and is implemented through specific emission limitations for sources, as incorporated into State Implementation Plans, or SIPS. Under this program, new and existing sources are prohibited from emitting pollutants that exceed ambient air quality standards. The second type of regulatory program is one where new sources are subjected to more stringent control technology and permitting requirements. The third type of regulatory program is directed toward specific pollution problems, such as hazardous air pollution, acid rain, stratospheric ozone protection, mobile sources and fuels, or visibility impairment.

NESHAPs fall within the third type of regulatory program. In the 1990 Clean Air Act Amendments, Congress established a list of hazardous air pollutants (HAP) to be regulated. Congress directed the U.S. Environmental Protection Agency (USEPA) to identify sources that would emit those pollutants and to promulgate a national emission standard for each source. USEPA has published the NESHAPs rules at 40 CFR Part 63. The Aerospace NESHAP is found at 40 CFR Part 63 Subpart GG, or 40 CFR Sections 63.741 through 63.753. ■

ENERGY AND ENVIRONMENT SERIES PUBLISHED BY UNIDO

The Energy and Environment Series, prepared by the Industrial and Technological Information Bank (INTIB) of the United Nations Industrial Development Organization (UNIDO) has currently published eight issues in its Energy & Environment Services. Details related to the available material are presented below.

EES No 1. Energy Conservation in Industry (ISBN 92-1-1006277-2): a 37-page volume, beginning with a technical report on reducing energy loss in four industrial sectors and improving energy conservation through waste-heat recovery. Abstracts cover the metallurgical, plastics and automotive industries. The information for this number has been supplied by three major international databases and five topic-specific sources, including the Economic Commission for Europe of the United Nations and the Industry and Environment Programme Activity Centre (IEPAC) of the United Nations Environment Programme (UNEP).

EES No 2. Effluent Control in Industry (ISBN 92-1-116563-6): 190-page volume contains a lead article on the management and control of chemical effluent from industry, followed by references on the pulp and paper, agricultural products processing, metallurgical, plastics and composites industrial sectors. Abstracts of research papers on waste treatment processes, obtained from the Netherlands National Institute of Public Health and Environmental Protection (RIVM), have been prepared and included. Other references have been received from Pira International, the International Information System for the Agricultural Sciences (AGRIS) of the Food and Agriculture Organization of the United Nations (FAO) and the Industry and Environment Programme Activity Centre (IEPAC) of the United Nations Environment Programme (UNEP).

EES No 3. Hazardous Waste Management in Industry (ISBN 92-1-106288-8): this is the third number in the Series of 170 pages. The lead article admirably sets the scene for the subsequent abstracts. Although lengthier than such articles in previous numbers of the Series, it succinctly presents options for management, treatment and disposal of existing wastes, including criteria for site selection and the economic considerations involved. The volume covers ways to manage as well as to avoid environmental hazards resulting from a range of industrial sector activities. Abstracts cover the following main subject areas: metallurgy; plastics, ceramics and other composite materials including the business aspects of these materials; and chemicals and agrochemicals, including solvents. Two sections, one specifically on Eastern Europe and waste remediation deal with: monitoring; legislation and regulations; waste recovery and recycling; risk assessment and management; soil remediation; waste disposal and conversion methods; water management and treatment.

EES No 4. Industrial Safety (ISBN 92-1-106293-4): the fourth volume in the Series covers issues related to industrial safety and risk, from the points of view of plant operation, occupational health and safety and regulations. The volume starts with an article on accident and risk management, developed as a guide on the subject for UNIDO activities. The article covers the types of industrial risks and the nature of controls that may be applied, followed by specific measures in general and as applied to the various stages of industrial development, including decommissioning. Information has again been obtained from United Nations sources including: the Industry and Environment Review, issued by the Industry and Environment Programme Activity Centre of the United Nations Environment Programme; the International Information System for the Agricultural Sciences and Technology of the Food and Agriculture Organization of the UN; and UNIDO itself-the latter includes technical (safety) guidelines for pesticide formulation in developing countries.

EES No 5. Energy Conservation in Industry (ISBN 92-1-106294-2): looks at the subject of energy conservation, with the lead article dealing with the glass industry. Abstracts include special sections on energy conservation in Eastern European countries. A special section covers the state of the environment in Austria in general, in relation to the environmental media, and in particular locations and specific industrial sectors.

EES No 6/7. Waste Minimization in Industry (ISBN 92-1-106299-3): this is a double issue, on a very topical subject-waste minimization, also known as cleaner production and pollution prevention. There are two special introductions explaining the cleaner production programmes of UNIDO and UNEP/IE as well as over 900 abstracts on the subject. The lead article covers waste minimization in the solvents, paints and coatings sectors. Material was received from: UNEP/IE, including over 100 case studies from ICPIC; from the Latin America region (in Spanish) courtesy of CEPIS/REPIDISCA; and from AIT/CLAIR in Thailand.

EES pre-publication: The INECA Journal-Recycling '91: This was a test volume and the precursor to the Energy and Environment Series. Printed at the beginning of 1992, Recycling '91 attempted to merge information from a variety of sources, both computerized and printed, with the objective of presenting a broad industrial perspective on a cross-cutting environment topic. This 200-page issue begins with a 20-page report on the recycling of plastics and plastic waste, viewed from a global perspective, and supported by statistical data. Two bibliographies follow, with a combined subject index. The first contains about 500 items on recycling selected from the 1991 input to METADEX, the Engineered Materials Abstracts and the Materials Business File data bases. The second bibliography concentrates on literature processed by UNIDO, covering a wider range of environmental topics. The information, most of it unavailable elsewhere, comes from INTIB's environmental information resources. Recycling '91 also includes a list of special information centres.

For more information regarding these documents, please contact Peter Pembleton at ppembleton@unido.org. ■

NEW COMMODITY ROLLS INTO DSCR

Defense Supply Center Richmond is partnering with industry to develop innovative ways to provide bearings to its customers worldwide. Bearings are a new commodity for the Richmond's Product Center Six, transferred from Defense Industrial Supply Center, Philadelphia, PA., as a result of Base Closure and Realignment Commission decisions. The federal supply classes being transferred are: 3110, annular ball bearings; 3120, unmounted plain bearings; and 3130, mounted bearings and bushings.

Because our immediate goal is to ensure a smooth, transition for you, the customer, we have actively geared up for this new commodity in a variety of avenues. Partnering with industry is key to our understanding of the production nuances peculiar to bearings and how it affects DLA customers. The center co-hosted a conference last December where government representatives met and discussed bearings with over 40 bearings manufacturers.

Visits with some of the larger bearings manufacturers reveals a willingness to work together to develop innovative methods in which to enhance customer support. More visits have been scheduled and will increase our awareness of the array of commercial, aviation, and instrument avenues available to us.

Education is also a vital part of Richmond's preparation to assume management of bearings. A series of training courses, as well as a stringent, two-part bearings certification course offered by the Naval Aviation Depot, North Island, California, has been completed by product center representatives, marketing and product development workers.

Customer liaison is integral to the success of any customer/supplier relationship. Visits to Naval Aviation Depot North Island and the Fleet Industrial Supply Center San Diego, two of our largest customers, have proven helpful in establishing a rapport with and identifying their particular areas of concern. Other customers visited in March included the Naval Aviation Depots in Cherry Point, N.C., and Jacksonville, Fla.; Warner Robins, Kelly and Tinker Air Force Bases; and Corpus Christi Army Depot.

Defense Supply Center Richmond has also been an active participant in external organizations which promote bearings efficiency and awareness. Among these are DoUs Rolling Element Bearings Group (REBG), which promotes technology improvements in precision and general purpose bearings, to include their manufacture and application by both DoD and industry.

DSCR members now chair three of the group's sub-committees which are, among other things, responsible for creating and maintaining specifications and standards for bearings and related issues, such as packaging, lubrication, and testing.

REBG chairman, Dr. Robert Mowery, is enthusiastic about DSCR's participation in the group, and says he looks forward to expanding its membership by adding supply and contracting sub-committees which can tackle the diverse intricacies involved in procuring and managing bearings.

Defense Supply Center Richmond, well known for developing innovative ways to improve customer support and readiness, welcomes your suggestions on ways to provide the best value bearings, or other products, to its customers.

If you have any suggestions, questions or concerns about bearings, call Gwen Woods at DSN 695-6079, or commercial 1-800-345-6333. ■

REQUEST FOR INPUT…

Are you interested in serving in an advisory capacity for the MONITOR? Have you had articles published in the MONITOR that you would like linked directly to your web site?

The MONITOR staff is currently focusing on implementing the following initiatives:

- Establishing an advisory board for the newsletter to help identify areas/topics that require increased communication between the SMs, MAJCOMs and the ESOH communities.
- Ensuring all ESOH stakeholders, SMs and his/her customers have access to the MONITOR platform.
- Increasing the reach of the MONITOR by cross-feeding articles produced in Cycle II to other platforms (AF centers of excellence, AFAM, other DoD web sites).

Please contact me at DSN 255-3058 ext. 328 or my e-mail at turnercd@emsmtp.wpafb.af.mil if you would like to serve on the MONITOR's advisory board or would like any historical articles written about your organization linked to your web site.

Cliff Turner, ASC/EM, MONITOR Program Manager. ■

MONITOR TRANSITIONS TO A NEW WEBSITE

This issue of the Acquisition Environmental, Safety, and Occupational Health MONITOR is available on the Internet at both the HSC site (http://www.brooks.af.mil/HSC/EMP/Monitor/Monitor.html) and at the ASC site (http://www.ascem.wpafb.af.mil). The current issue of the MONITOR is in a Portable Document Format (PDF) file which requires a reader program for viewing or downloading. The Adobe Acrobat reader is available for downloading at not cost. Please change your bookmark for the MONITOR to the ASC website. All historical and future issues will be made available at this website in July 1998. ■

Details related to the Bird Air Strike Hazard (BASH) Program and other safety related issues (e.g., use of root cause analysis in mishap reporting requirements) are routinely discussed in the Air Force Safety Center's *Flying Safety Magazine*. This on-line magazine can be accessed at: http://www-afsc.saia.af.mil/magazine/htdocs/afsc2.html. ■

UPCOMING EVENTS

Date	Meeting	Location	POC	Phone/E-mail
10 Jun 1998	Ninth Annual Energy Efficiency Forum	National Press Club Washington, DC	Paul von Paumgarten or Lori K.W. Reichett	(414) 274-4546 or (414) 274-4017
13-18 Jun 1998	Solar '98	Albuquerque, NM	American Solar Energy Society	(303) 443-3130 FAX: (303) 443-3212 http://www.ases.org.solar
14-19 Jun 1998	The Air & Waste Management Association 91st Annual Meeting and Exhibition	San Diego, CA	Ms. Denise Liberto	(412) 232-3444, ext. 3142 e-mail: d.liberto@awma.org
15-18 Jun 1998	ISESS 1998 Workshop on Design Principles for Environmental Information Systems		Prof. Dr. Ralf Denzer	e-mail: denzer@htw.uni-sb.de http://www.htw.uni-sb.de/eig/isess1998
17 Jun 1998	Waste Prevention Pays: Business Cut Costs by Cutting Waste, A Wi$e Satellite Forum			1-800-EPA-WISE http://www.epa.gov/wastewise
07-9 Jul 1998	Weapon System P2 Center Working Group Conference - 10th Joint Solutions to Common Problems	Raytheon - TI, Dallas, TX	Mr. Bob Hill	DSN: 986-3678
07-10 Jul 1998	4th International Interdisciplinary Conference on the Environment	Washington, DC	IEA/Kantarelis-Hickey	(508) 767-7557 or (508) 767-7296 FAX: (508) 767-7382 e-mail: khickey@eve.assumption.edu http://www.assumption.edu/html/academic/conf/iicecall.html
10-14 Jul 1998	INDEX 1998: Workshop on Environmental Indicators and Indices	Styria, Austria	Dieter Lehmann or Roman Lenz	+49 (0) 7022-404, ext. 152 or 177 FAX: +49 (0) 7022-404, ext. 166 e-mail: lehmann@fh-nuertingen.de or r.lenz@fh-nuertingen.de http://www.htw.uni-sb.de/eig/index98/
05 Aug 1998	Weapon System P2 Center Working Group VTC	1100-1200 Eastern Time	Mr. Peter Logan	DSN 478-4536
16-21 Aug 1998	Improving the Practice of Pollution Prevention	Crested Butte, CO	Engineering Foundation Conferences	(212) 705-7836 FAX: (212) 705-7441 e-mail: engfnd@aol.com http://www.engfnd.org/7be.html
18-20 Aug 1998	Tri-Service Environmental Technology Workshop	San Diego, CA	Ms. Sonja Herrin	(757) 865-7604
23-28 Aug 1998	1998 ACEEE Summer Study on Energy Efficiency	Pacific Grove, CA	ACEEE	(202) 429-8873 FAX: (202) 429-0193 http://acee.org
25-28 Aug 1998	3rd Annual Joint Service P2 Conference and Exhibition	Henry B. Gonzalez Convention Center, San Antonio, TX	National Defense Industrial Association	(703) 522-1820 FAX: (703) 522-1885